

Appl. No. 10/910,071
Amtd. Dated: April 10, 2007
Reply to Office Action of February 02, 2007

~~the number of shelves being unitary portions of the resin body; and
a metal rod being received in said first through hole of said body
portion;~~

wherein said body portion is molded from an electrically conductive
resin molding material.

Claims 3-4 (cancelled).

Claim 5 (previously presented): The substrate-supporting rod as
claimed in claim 1, wherein said projection comprises a highest portion
having a smooth curved surface.

Claim 6 (currently amended): The substrate-supporting rod according
to claim 1, wherein each of the shelves extends perpendicularly to [[an]]
the central axis of the body portion.

Claim 7 (currently amended): The substrate-supporting rod according
to claim 1, wherein each of the shelves is upward inclined relative to [[an]]
the central axis of the body portion.

Claim 8 (previously presented): The substrate-supporting rod
according to claim 1, wherein the cross section of said body portion is
C-shaped.

Claim 9 (previously presented): The substrate-supporting rod
according to claim 1, wherein the cross section of said body portion is
O-shaped.

Claim 10 (previously presented): The substrate-supporting rod
according to claim 1, wherein the metal rod comprises a pair of end
portions each of which having a pair of side faces parallel to each other
and a threaded hole.

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Claim 11 (currently amended): A cassette configured for supporting a substrate, comprising:

at least two pairs of supporting rods, each rod comprising:

a resin body which comprises a cylindrical body portion having an axial first through hole and a number of shelves, the number of shelves arising from said body portion and extending in parallel to one another at a predetermined pitch, said body portion and the number of shelves being unitary portions of the resin body; and

a metal rod being received in said first through hole of the body portion;

wherein each of the shelves is provided with a projection extending at from a free end thereof, said projection is cylindrical in shape of which the diameter is larger than the thickness of the shelf, and a central axis of said projection is substantially perpendicular to [[an]] a central axis of the body portion; and

a pair of frames cooperating with the supporting rods in the overall shape of a box for accommodating a substrate between the shelves of each opposed pair of supporting rods.

Claim 12 (original): The cassette as claimed in claim 11, wherein said body portion is molded from an electrically conductive resin molding material.

Claims 13-14 (cancelled).

Claim 15 (previously presented): The cassette according to claim 11, wherein said projection comprises a highest portion having a smooth curved surface.

Claim 16 (currently amended): The cassette according to claim 11,

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wherein each of the shelves extends perpendicularly to [[an]] the central axis of the body portion.

Claim 17 (currently amended): The cassette according to claim 11, wherein each of the shelves is upward inclined relative to [[an]] the central axis of the body portion.

Claim 18 (original): The cassette as claimed in claim 11, wherein the cross section of said body portion is C-shaped.

Claim 19 (original): The cassette as claimed in claim 11, wherein the cross section of said body portion is O-shaped.

Claim 20 (original): The cassette as claimed in claim 11, wherein the metal rod comprises a pair of end portions each of which having a pair of side faces parallel to each other and a threaded hole.

Claim 21 (original): The cassette as claimed in claim 11, wherein each of the frames is provided with several grooves, each of which matches with the end portion of the metal rod.

Claim 22 (previously presented): The cassette as claimed in claim 21, wherein each of the grooves is provided with a second through hole secured with the threaded hole of the end portion of the metal rod.

Claim 23 (cancelled).

Claim 24 (previously presented): The substrate-supporting rod according to claim 2, wherein the cross section of said body portion is C-shaped.

Claim 25 (cancelled).

Claim 26 (currently amended): The substrate-supporting rod as

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claimed in claim 24 [[25]], wherein said projection comprises a highest portion having a smooth curved surface.

Claim 27 (currently amended): The substrate-supporting rod according to claim 24, wherein each of the shelves extends perpendicularly to [[an]] the central axis of the body portion.

Claim 28 (currently amended): The substrate-supporting rod according to claim 24, wherein each of the shelves is upward inclined relative to [[an]] the central axis of the body portion.

Claim 29 (new): A substrate-supporting rod to be assembled with a cassette frame for supporting substrates, the substrate-supporting rod comprising:

a resin body which comprises a cylindrical body portion having an axial first through hole and a number of shelves, the number of shelves arising from said body portion and extending away from said body portion in parallel to one another at a predetermined pitch, said body portion and the number of shelves being unitary portions of the resin body; and

a metal rod being received in said first through hole of said body portion;

wherein each of the shelves is provided with a projection extending along a widthwise direction and at a free end thereof, said projection is cylindrical in shape of which the diameter is larger than the thickness of the shelf.

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Claim Rejections Under 35 U.S.C. 103

Claims 12 (sic) and 24-27 are rejected under 35 U.S.C. 103 as being unpatentable over Chinese Patent Serial No. 09111024744, issued December 17, 2002 to Huang et al., and further in view of US Patent No. 6,186,344 to Park et al.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Park as applied to claims 12 (sic) and 24-27 above, and further in view of US Patent No. 5,584,401 to Yoshida.

First of all, based upon the detailed statements (see Para. 3 of P. 3, in current Office Action; Para. 4 of P. 5 therein) presented by the Examiner, Applicant reasonably understood that the rejection is applied to claim 2 rather than claim 12.

In response to the rejection of claim 2, Applicant has amended claim 2 to depend from allowable amended claim 1 (see Para. "Allowable Subject Matter" of P. 5, in current Office Action), and thus amended claim 2 is also allowable. Therefore, withdrawal of the rejection and allowance of which is hereby respectfully requested.

In response to the rejection of claims 24-27, Applicant has canceled claim 25, rendering moot the rejection of claim 25. Further, claims 24, 26, and 27 depend upon amended claim 2, which is allowable for the reasons set forth above. As such, Applicant submits that claims 24, 26, and 27 are also allowable, the allowance of which is hereby respectfully requested.

In response to the rejection of claim 28, Applicant submits that claim 28 depends upon amended claim 2, which is allowable for the reasons set forth above. As such, claim 28 is also allowable, the allowance of which

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is hereby respectfully requested.

Allowable Subject Matter

The Examiner has indicated that "claims 1, 5-12, and 15-22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office Action", for which courtesy the Examiner is thanked. In response, claims 1 and 11 have been amended, as instructed by the Examiner. Further, Applicant has amended the subject matter of "each of the shelves is provided with a projection extending from a free end thereof" to be "each of the shelves is provided with a projection extending at a free end thereof" in claims 1 and 11, in order to more clearly express the subject matter thereof. As such, Applicant submits that claims 1 and 11, as amended, are still in condition for allowance, even upon amendment in the manner set forth above. Even further, claims 5-10, 12, and 15-22 depend upon one of allowable claims 1 and 11. As such, claims 5-10, 12, and 15-22 should also be found allowable.

Double Patenting

Claims 2, 24, and 27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 7,051,887 to Huang et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because both include a generally cylindrical body portion having perpendicularly extending shelf-type portions disposed parallel to one another, and a rod extending through a central axial bore of the cylindrical body portion.

In response to the rejection of claims 2, 24 and 27, Applicant submits that claim 2 has been amended to depend upon allowable claim 1, and thus,

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claim 2, in its current form, is also patentable. Claims 24 and 27 depend upon claim 2 and, thus, also are allowable. As such, withdrawal of the rejection and allowance of such claims 2, 24 and 27 are hereby respectfully requested.

New Claim

Claim 29, as newly added, recites in part:

A substrate-supporting rod to be assembled with a cassette frame for supporting substrates, the substrate-supporting rod comprising: ...

wherein each of the shelves is provided with a projection extending along a widthwise direction and at a free end thereof, said projection is cylindrical in shape of which the diameter is larger than the thickness of the shelf. (Emphasis added)

Applicant submits that Huang et al. in view of Park et al. or any other cited references (including Yoshida), taken alone or in combination at least fail to teach or suggest the subject matter "a projection extending along the widthwise direction and at a free end thereof" and/or "said projection is cylindrical in shape of which the diameter is larger than the thickness of the shelf", as set forth in claim 29, as newly added. As such, Applicant submits that newly added claim 29 is allowable over the prior art of record, the allowance of which is hereby respectfully requested.